

WHAT IS CLAIMED IS:

1. An electrode-membrane assembly comprising a pair of electrodes at least one of which is porous, and a thermoplastic resin membrane having a functional group capable of being modified to a free ion exchange group upon hydrolysis, which is interposed between said two electrodes and partly penetrates into the pores of said electrode.

2. The electrode-membrane assembly as claimed in claim 1, wherein said thermoplastic resin acts as a precursor of a fluorine-containing ion exchange membrane having a sulfonic acid group.

3. The electrode-membrane assembly as claimed in claim 1, wherein said thermoplastic resin membrane acts as a precursor of a fluorine-containing ion exchange membrane having a phosphonic acid group.

4. The electrode-membrane assembly as claimed in claim 1, wherein said thermoplastic resin is a copolymer of tetrafluoroethylene and a fluorovinyl compound having sulfonyl fluoride as a functional group.

5. An electrode-membrane assembly comprising a pair of electrodes at least one of which is porous, and an ion exchange membrane having a free ion exchange group, which is interposed between said two electrodes and partly penetrates into the pores of said electrode.

6. A fuel cell comprising an electrode-membrane assembly as claimed in Claim 5.

7. A zero-gap type electrolytic cell comprising an

electrode-membrane assembly as claimed in Claim 5.

8. A process for the preparation of an electrode-membrane assembly which comprises interposing a thermoplastic resin membrane having a functional group capable of being modified to a free ion exchange group upon hydrolysis between a pair of electrodes at least one of which is porous, applying an external force to the assembly so that said thermoplastic resin membrane is deformed and partly allowed to penetrate into the pores of said porous electrode to make integration, and then subjecting the assembly to hydrolysis so that said functional group is released and modified to a free ion exchange group.

205020 2442907